Title (en)

USAGE COUNTER FOR PORTABLE JUMP-STARTING BATTERY UNIT

Title (de)

VERBRAUCHSZÄHLER FÜR TRAGBARE STARTHIFEBATTERIEEINHEIT

Title (fr)

COMPTEUR D'UTILISATEUR POUR BLOC D'ALIMENTATION PORTATIF DE DEMARRAGE D'APPOINT

Publication

EP 1250744 A4 20030604 (EN)

Application

EP 00992508 A 20001114

Priority

- US 0042178 W 20001114
- US 17536300 P 20000110
- US 59693200 A 20000619

Abstract (en)

[origin: US6252378B1] A usage counter has input terminals connectable to the terminals of a jump-starting battery pack. The counter has an IC comparator which generates an output signal when battery voltage drops below a predetermined reference level. If the output signal persists for a predetermined time period, indicating an attempt to jump-start an engine with the battery pack, an IC timer is triggered to output a count pulse which is inverted and then counted and displayed by an IC counter/display circuit. The usage counter circuit is powered by the battery pack and has a Zener diode which provides to the IC circuits a limited supply voltage which is unaffected by voltage spikes which might appear at the battery pack terminals. A capacitor maintains the reference voltage level despite momentary drops in battery terminal voltage.

IPC 1-7

H02J 7/00; G01R 31/36

IPC 8 full level

H01M 10/48 (2006.01); **H02J 7/00** (2006.01); G01R 31/36 (2006.01)

CPC (source: EP US)

H02J 1/122 (2020.01 - EP US); **H02J 7/0047** (2013.01 - EP US); G01R 19/16542 (2013.01 - EP US)

Citation (search report)

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- [XY] US 5818333 A 19981006 - YAFFE YACOB [IL], et al
- [XY] US 5130699 A 19920714 - REHER MICHAEL T [US], et al
- [Y] "KEY WITH LCD INDICATOR", IBM TECHNICAL DISCLOSURE BULLETIN, IBM CORP. NEW YORK, US, vol. 32, no. 4B, 1 September 1989 (1989-09-01), pages 109 - 110, XP000067050, ISSN: 0018-8689
- See references of WO 0152381A1

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DOCDB simple family (publication)

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